

PATRICK (H. T.)

Vibratory medicine



VIBRATORY MEDICINE.

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I thought the society might possibly be interested in seeing one of the later productions of so-called vibratory medicine. This is called a vibrating helmet, the casque vibrant of Gilles de la Tourette. It consists of a nickel-plated helmet, in shape much like the crown of a derby hat, surmounted by a small electric motor, the revolving armature of which is armed with two small eccentric wheels. It is the rapid revolution of these eccentrics that causes the whole to vibrate. The inside is supplied with a number of broad steel strap springs which radiate from the center of the vertex and pass almost to the rim, making it possible to adjust the helmet to any head, and serving to transmit the vibrations. I run the motor by means of a storage battery, which enables me to regulate the number of revolutions, that is vibrations, from six to eight to one hundred or more per second, the usual rate being about fifty. The length of the sittings is five to fifteen minutes, and their frequency three to six times a week. Be it understood that this is in no sense an electric treatment. The current never reaches the patient, the battery being used simply as a means to obtain the mechanical result.

The history of vibratory therapeutics is very briefly as follows: In 1877, Mortimer Granville, of London, began to experiment with a percuteur, a rapidly vibrating hammer run by clock work, and used for percussion over painful points, along the spine, etc. He has since improved and elaborated it and now uses electricity as the motive power. He published nothing until later.

In 1878 Vigouroux¹ tried the effect of vibrations upon the subjects of hysteria at the Salpêtrière. He used an enormous tuning fork mounted on a sounding box about a yard high and set in vibration by a fiddle bow, and he found he could remove the hemi-anesthesia and contractures of hysterical patients the same as Charcot had done with the magnet and metals. One case of tabes

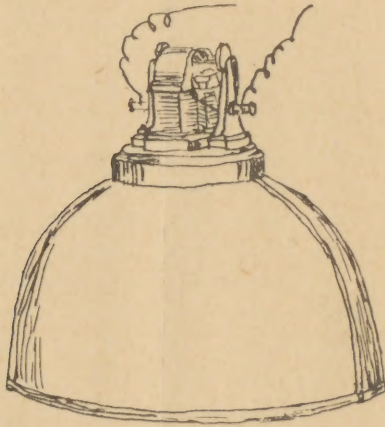
Chicago Medical Society, September, 1894.

¹Progrés Médicale 1878, p. 747; 1880 p. 730.



was treated by introducing his legs into the sounding box and his lightning pains were relieved.

The following year Schiff arrived at like conclusions from purely theoretical grounds, although he had seen the experiments of Vigouroux. In 1880, Boudet de Paris,² a physician and electrician applied vibrations locally, employing an electric tuning fork, applied to the painful point by means of a small arm terminating in a disc. He relieved migraine and similar troubles and in normal individuals succeeded in from eight to twenty minutes in inducing a pronounced local analgesia. He found the results more positive 1, when the disc was applied directly over the branch of a nerve,



and 2, where the tissues were not too thick and rested upon a firm base, as about the head. He thought though, that the vibration of the brain itself might play a role in the production of the results achieved. Boudet's article was followed by a claim of priority by Granville who then wrote several papers³, and in 1883 appeared his book on Nerve Vibration and Excitation abounding in ingenious but untenable theories and gratuitous assumptions, or at least, in theories and assumptions that cannot be proven in the present state of our knowledge of nerve physiology and pathology. The essential point is that he claimed a considerable success in the treatment of various painful and other nervous affections. I may add that I called on Dr. Granville some four or five months ago,

²Progrés Medicales, Feb. 5, 1881.

³Lancet, Feb. 19, 1881. Brit. Med. Jour., March 11, 1882. Ibid., March 10, 1883.

and he told me that the percuteur was still in successful operation.

Up to this time the subject had been approached from a purely theoretical standpoint. Mortimer Granville was led up to his experiments by a consideration of the manner in which cold relieves pain and passed on, by way of Newton's doctrine of concords and discords and other discoveries in physics, to the conclusion that the effects of his rapid tapping were due to "the extinguishment of a morbid set of vibrations by the superimposition of another, incompatible or discordant set of vibrations." Vigouroux had imagined an hypothesis of vibrations to account for the various phenomena of metallotherapy and hoped to find support for it in the effects of sonorous and mechanical vibrations and Boudet of Paris simply continued these experiments. Now, however, the departure was to be from clinical facts.

Charcot had frequently called attention to the fact that many subjects of paralysis agitans experienced considerable relief during a railway journey or omnibus ride, a relief which continued for some time after the termination of the trip, and he suggested a therapy founded on this fact. In accordance with his suggestion Dr. Jégu caused to be constructed a "vibrating chair," which is in constant use at the Saltpêtrière and which has been found to afford great relief in many cases. The patients after a treatment lose their troublesome sensations of burning, prickling and other paresthesiae, and the feeling of general discomfort; they feel lighter, less rigid and walk better.

Pursuing the theme still further, but recurring to the ideas of Mortimer Granville and Boudet of Paris, Gilles de la Tourette, with the aid of M. Larat, a skillful electrician, constructed this vibrating helmet. The two apparatus were made the subject of a lecture by Charcot in 1892, which revived the memory of some earlier efforts in the same direction which had fallen into oblivion. Gilles de la Tourette reviews the subject in the *Nouvelle Iconographie de la Salpêtrière* for 1892, which, so far as I know, is the latest news on the subject. I visited him and M. Larat last January, when they informed me that the helmet was in constant use, with satisfaction to the patient and physician.

It is claimed for the helmet that it cures or relieves neuralgias, migraine and other headaches, and the distressing cephalic paresthesia of neurasthenics; that it has succeeded in these affections when all other means, notably electricity, had completely failed; that it is a general sedative and calmative, an efficient hypnotic and

effective in some cases of melancholic depression. My own experience is, as yet, too limited to allow of positive deductions as to its practical value, but I shall take pleasure in reporting later, whether my results are gratifying or the reverse. I feel safe, however, in saying that the helmet is something more than a therapeutic toy and a means of suggestion. I was obliged to discontinue its use in one case of nervous exhaustion because of a burning sensation it occasioned in the occipital and cervical regions and a general feeling of discomfort and vibration extending along the entire spine and which continued three to four hours after the séance.

On myself, if used too long, it produces a lightness in the head with a slight sensation of nausea and vertigo. One patient fell asleep during the second application which he has continued to do about each alternate time since. Another who had been suffering exceedingly with headaches two or three days out of each week, so severe as to almost incapacitate him for all work had no severe headache during the first three weeks of treatment. I then went out of town for a few days, and on the day of my return he had a severe headache which the helmet relieved for a few minutes only. He has had none since, a period of three weeks. In another case the benumbing effect was so pronounced, whether on the peripheral nerves or sensorium I do not know that the helmet, gradually displaced by its vibration, finally slipped off the patient's head and fell to the floor before he was aware of it. It was replaced, and the same thing occurred again except that this time I caught it before it could fall.

A consideration of the *modus operandi* of the apparatus is aside from my object this evening, but I may, perhaps, say that in addition to the influence of rhythmic vibrations upon the sensory nerves, consciousness and psychic processes, it has occurred to me that this vibration of the cranium and its contents might be looked upon as a massage of the brain. I am well aware that this proposition has a rather startling sound, but the nutrition of muscle fiber is promoted by rubbing, kneading and percussion, the several structures that go to make up a joint are coaxed back to a normal condition by the various mechanical procedures of Swedish movement, and it has seemed to me not altogether unreasonable to suppose that the circulation of fluids in the brain and the nutritive processes in cell and fiber might be promoted by this gentle agitation.

VENETIAN BUILDING.

